REMARKS/ARGUMENTS

Responsive to the Official Action mailed March 25, 2005, applicants have amended the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, independent claim 1 has been amended, and claims 2-14 added. Reconsideration is respectfully requested.

In the Action, the Examiner has rejected the pending claims under 35 U.S.C. §103, with reliance upon U.S. Patent No. 5,560,794, to Currie et al. However, it is respectfully submitted that this reference does not teach or suggest a nonwoven, cleaning laminate construct which includes bonded and unbonded regions, whereby the unbonded regions of laminate can shift and distort against one another, that is, form so-called momentary crenulations, to provide an enhanced cleaning action in either "wet" or "dry" cleaning environments. Accordingly, the Examiner's rejection is respectfully traversed.

As discussed in the Specification, the present invention provides an enhanced cleaning laminate, wherein two functionally diverse surfaces are provided by laminating two nonwoven fabric layers having differing characteristics. In particular, an absorbent nonwoven fabric layer, such as comprising staple length fibers (through air-bonded, polypropylene fibers in one preferred embodiment) is bonded with an associated abrasive nonwoven fabric layer, which in one preferred form comprises relatively coarse denier melt-blown filaments.

In accordance with the present invention, these differing nonwoven fabric layers exhibit a difference in the coefficient of friction between the layers, with the fabric layer selected so that they exhibit at least a 10% difference in the coefficient of friction between the two layers. In conjunction with this difference in frictional coefficient, the present laminate is configured so that

the fabric layers are joined at bonded regions, which may comprise ultrasonic thermal bonding, with unbonded regions thus defined between the two fabric layers.

Significantly, this laminate construct has been found to desirably result in so-called momentary crenulations, that is, the unbonded regions of the laminate can shift and distort against one another, when the laminate is subjected to shear forces such as during typical use in a cleaning application. As a result, the surface of the layers adopt a transitory bunching or wave pattern, with one preferred embodiment configuring the unbonded regions as "pillows" each having a surface contact area of between about 0.5 inches and 12 square inches, with an area of approximately 2.0 square inches exhibiting the desired results.

As further discussed in the specification, the intra-laminate abrasion between the absorbent and abrasive layers, in conjunction with air permeability of the absorbent layer, enables the laminate, in a "wet" cleaning environment, to create a useful lather, with reduced mechanical agitation. In a "dry" cleaning environment, the ability of the absorbent and abrasive layers to shift against one another with resultant momentary crenulation bunching, has been found to desirably enhance the agitation performance of the abrasive layer.

A study of the cited Currie et al. reference shows that it clearly does not teach or suggest such a nonwoven laminate construct. It is respectfully submitted that there is no teaching or suggestion in Currie et al. of creating the claimed shifting and distortion between adjacent layers, nor does this reference teach or suggest the formation of "momentary crenulations" in accordance with the present invention. These crenulations are formed by virtue of the claimed frictional coefficient differential, and the claimed range of surface contact area for the unbonded regions of the laminate.

Rather, the thrust of the Currie et al. patent is to provide *enhanced abrasiveness* of the disclosed abrasive surface layer 10 of the laminate. This reference states that this is achieved by "hot pin aperturing", performed in the abrasive layer prior to lamination with the associated carrier layers. At column 2, lines 58 *et seq.*, Currie et al. states:

> The coarse, shot-laden layer and the adjacent supporting carrier layer are hot pin apertured prior to their being joined to the absorbent layer and it supporting carrier layer. The hot pin aperturing of these two layers provides a three-dimensional effect which improves the abrasiveness of the coarse, shot-laden meltblown layer.

At column 3, lines 37 *et seq.*, the result of hot pin aperturing is described:

> The pin and apertured rollers serve to mold the fibers of the coarse, shot-laden meltblown layer and the fibers of the supporting carrier layer into a three-dimensional generally conical shape. Elevation of the temperature of the pin aperturing apparatus serves to lock the apertured surface into the three-dimensional shape formed when the heated pins penetrate through both the coarse, shot-laden layer and it supporting carrier layer into the apertured roller. . . . Additionally, the three-dimensional stabilized structure presents a much more aggressive abrasive medium for the removal of coarse dry dirt when the material is utilized as part of a wiper.

Further study of the Currie et al. reference shows that there is *no contemplation* of forming bonded and unbonded regions between cooperating abrasive and absorbent layers to permit creation of "momentary crenulations", in accordance with the present invention. At column 12, lines 45 *et seq.*, Currie et al. describes formation of the laminate:

> Once the two precursor webs 16 and 60 have been so positioned, they are passed through a station 62 where they are joined together in a convention manner.

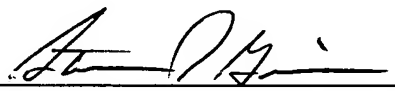
Conventional bonding techniques are thereafter described, with no teaching or suggestion that the layers should be bonded together in a fashion which permits a frictional

coefficient differential between the layers to induce shifting and distortion of the layers against each other.

In view of the foregoing, formal allowance of claims 1-14 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

By 
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I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **August 25, 2005**.